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Dr. Leidy exhibited three broken teeth, consisting of the body of a canine and that of two posterior molars, which, he observed, were fossils from Nebraska Territory, and belonged to an animal closely allied to the genus Ursus. The tubercles upon the crown of the molars are more elevated and conoidal than in the recent bears, and the crown of the canine is relatively more robust. He proposed for the animal the name of Arctodon.

Dr. L. stated that he was preparing a memoir, in which would be described in detail all the fossil remains of Mammalia from Nebraska Territory, heretofore characterized by him in the Proceedings.

He next presented for examinaton a species of fresh-water sponge found growing in the Delaware and Schuylkill rivers, in the vicinity of Philadelphia, which he characterized as follows:

SPONGILLA FRAGILIS.—Discoidal, lichenoid, growing in patches, flat, oval or circular, lobate at the margin, translucent, yellowish-white or cream-colored. Areolæ distinct, subcircular. Reproductive bodies arranged in a single close layer at the base of attachment of the sponge, shining, whitish-yellow, elevated into a central papilla upon the upper surface.

Measurements.—From ½ to 2 inches in diameter by 1 to 1½ lines in thickness at the centre and gradually thinning off to the margin.

Habitation.—Grows upon the under side of stones below low water mark in the Rivers Delaware and Schuylkill.

Structure.—Composed of an intertexture of spiculæ about 1-400th of an inch long, having a minutely tuberculated surface, over which is reflected a granulo-cellular membrane.

Remarks.—After the death of the sponge, the areolated tissue macerates off, leaving the reproductive bodies in a close layer attached to the rock. The living sponge is never green, nor does it ever grow exposed to the light.

Dr. L. further stated that another species of fresh-water sponge is not uncommon in our rivers, which grows exposed to the light, and is green in color like the European Spongilla fluviatilis, but whether it is specifically distinct from the latter, he has not yet ascertained.

October 28th.

Vice-President WETHERILL in the Chair.

The Committee to which was referred Mr. Lea's paper on the genus Acostæ, of D'Orbigny, reported in favor of publication in the Journal.

The Committee to which was referred Mr. Cassin's "Catalogue of the Caprimulgidæ in the Collection of the Academy of Natural Sciences of Philadelphia," reported in favor of publication. [☞*For this paper see the end of the present number.*]

The Committee to which was referred the following paper of Mr. C. Girard, reported in favor of publication in the Proceedings.

Historical Sketch of Gordiaceæ.

By Charles Girard.

I.

There are groups, among the invertebrates of the animal kingdom, whose natural history has made but little progress, although known to science for more than half a century.

The animals of which they are composed being generally of a diminutive size, modest in form, modest in colors, have been looked at with indifference, thought unworthy of a careful investigation, and deemed of too small an importance in a general system of classification.

Every living being, however, is entitled to occupy a rank in the creation; every one has its place, its aim, and its design.

Yet some are called enigmatic, paradoxical, doubtful,—as if to the Creator's mind, any thing or any being could be either an enigma, a paradox, or a doubt. Such groups, we must acknowledge, present great difficulties to investigators: but let investigators be patient and laborious, and they will gradually sweep away the enigmas, the paradoxes, and the doubts.

When the researches on a group are slow, and embrace a long period, then it becomes necessary, for the safe and future advancement of its natural history, to recapitulate all the data in their chronology. These data will become a guide into the various desiderata for new observations.

Most diverse opinions are still entertained concerning Gordiaceæ, and important zoological questions are still waiting the results of future investigations.

Are Gordiaceæ indigeneous in America, or introduced from abroad? If they are indigenous amongst us, are they identical with, or specifically different from, the European species?

Here commences a labor of comparison between the internal structure and external appearance of specimens from both countries. Besides specimens from all the localities of one country should be compared, in order to ascertain the number of species. Their embryology and metamorphosis must be traced; their habits recorded, in order to enable us to assign a natural position to that family in the class of Worms.

If they are introduced on this continent, how, where, and how long since, did that event take place? What is their geographical distribution and progressive migration to the places where they are now found?

Some facts which we already possess, and which are related hereafter, rather enforce the belief of their aboriginal nature, than that of their introduction. Even in the case of an identity between the American and European Gordiaceæ, these worms still deserve special attention from American anatomists, as the latter might be successful in elucidating the controverted anatomical questions which divide the naturalists of the old world.

II.

The genus *Gordius* was established by O. F. Müller during the last century.* Under that name were included aquatic worms, others living in moist grounds, and still others, more numerous, found as parasites in the body of other animals. Those which lead a permanent parasitical life, constitute now the genus *Filaria*, of the same author,* which has been admitted by all subsequent naturalists, and more than forty species of these are described by Rudolphi.† But there has been a general belief, that the only difference between Gordius and Filaria consisted in their habits, no zoological characters having as yet been detected.

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* Vermium terrestrium et fluviatilium historia, 1773.

Lamarck‡ even says, that the species of Gordius were probably Filariæ ; and if he has kept those two genera, it was merely in accordance with a prevailing practice.

Cuvier‖ places Gordii at the end of the annelids, thus made to follow the leeches, remarking, however, that they might perhaps come nearer the intestinal worms. He was unacquainted with the fact, since ascertained, that several species of true Gordius may be found, at a certain season of the year, within the body of other animals.

The genus Filaria is placed, by the same author, at the head of intestinal worms. Its characters are derived from the external appearance, which, however, he (Cuvier) acknowledges resembles closely that of Gordius.

Should a generic difference hereafter be found between Gordius and Filaria, in their anatomical structure, and we think it very likely to be the case, besides the difference of embyronic development which already distinguishes them, we shall have that peculiarity in their habits which makes Filaria to occur in such cavities of the body of other animals having no communication with the exterior, whilst Gordii, when occasionally found within other animals, occur in the intestinal canal; that is to say, in a cavity which communicates directly with the surrounding medium. This fact is of no small importance.

The letter of Mr. Jacobson, to de Blainville,§ relates to Filaria, and not to Gordius, as its title would lead any one to believe.

Mr. Charvet,¶ in describing two species of true Gordius, thinks that these worms are indifferently external and internal, and that the distinction made between Filaria and Gordius becomes thus insignificant. But he is inclined to believe that, if it can be proved that Filariæ have a mouth provided with a sucking apparatus, the character would be generic. He was not prepared, by direct observation, to decide upon this fact.

Leon Dufour** alludes to Gordii, and rejects the idea of an identity between them and Filariæ, considering the first as true Annelids, and the second as true Entozoa; there existing, he says, a mere external resemblance, which can only be proved to depend on identity of structure by anatomical investigations.

** O. F. Müller*, in Naturforscher. Vol. xxii., 1787.

†Entozoorum sive vermium intestinalium Historia Naturalis. (3 vol. 8 vo., 1808—1811), Vol. ii. p. 55 et seq.

‡Histoire naturelle des Animaux sans Vertèbres. Vol. iii., 1809, p. 670.

‖ Le Règne Animal distribué d'après son organisation, vol. iv., 1817, and 2d ed. vol. iii., 1829.

§Extrait d'une lettre adresée à Mr. de Blainville sur le dragonneau. Ann. Sc. Nat. 2de série i. 1834, p. 320.

¶Nouvelles Annales du Muséum d'historie naturelle. Vol. iii. 1834, p. 37.

**Annales des Sciences Naturelles, 2 de série, vol. vii., 1837, p. 7.

Prof. Siebold[*] speaks of Filariæ of various kinds of insects, resembling Gordii, which lived for some time in clear water, in which they had been placed. He afterwards discovered the fact[†] that sexes of Gordii were individualized, and males more numerous than females; and, withdrawing Gordii from Entozoa, he places them actually among Annelids. Subsequently[‡] he makes of Gordii a separate family, including also, the genus *Mermis* of Dujardin; the family he calls GORDIACEÆ, differing chiefly from that of *Nematoidea* in its embryonic development.

Entozoa have that peculiar mode of generation, in which several broods follow each other, without resembling each other; nor will they resemble their parent stock before the third, fourth, or fifth generation, according to the species.

The young Gordiaceæ resemble their parent as soon as hatched. There is, however, not yet a single species of that family whose eggs have been made the subject of a careful and complete study. Isolated facts only are known, and to these we shall devote a few lines further on.

There is a phenomenon, with which the naturalists of the old world are well acquainted, which takes place during the existence of Gordiaceæ, (in Mermis as well as in Gordius), it is the fact that they pass one part of their life within the body of other animals,—of Grasshoppers and Crickets, for example. They are found in the clear running waters of the meadows and fountains, early in the spring and summer ; they enter the body of grasshoppers in the fall, where they deposit their eggs. These insects die, and their bodies afford to these eggs a convenient shelter during the winter, when the next spring they will hatch, and become free again.[||] Eggs, however, are sometimes found without any such nidus; whether naturally or accidentally, remains to be ascertained.

A. S. Œrsted[§] agrees with Prof. Siebold in making of Gordiaceæ a separate group amongst Nematoidea, on the ground of their embryonic development.

Mr. Dujardin[¶] is remarkably short, and adds nothing to our knowledge on these worms, which he still calls enigmatic.

The manner in which Mr. Emile Blanchard[**] has illustrated the anatomical structure of the other families of the intestinal worms, would lead us to expect from that observer more precise facts repecting Gordioceæ than those we had before. But the author, at the outset, tells us that he was unable to fulfil the task he had undartaken, that is, a complete history of that family. The want of materials in such researches, added to the difficulty of experimenting, are the reasons advanced to account for the deficiency in this part of his investigations. The subject, therefore, stands precisely as it did before Mr. Blanchard undertook his anatomical researches on the class of worms.

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[*] *Wiegman's* Archiv für Naturgeschichte, 1837, ii., p. 254.

[‡] *Wiegman's* Archiv, &c., 1838, ii. p. 292, (*on the progress of Helmintholoy*); and 1838, i., p. 302, (*Helminthologische Beiträge*).

[‡] In *Germar's* Entomologische Zeitung, 1842.

[||] *Wiegman's* Archiv, &c., 1843, ii., pp. 302 and 307.

[§] Entwurf einer systematischen Eintheilung und speciellen Beschreibung der Plattwürmer, &c., 1844, pp. 28, 35.

[¶] Histoire Naturelle des Helminthes ou vers Intestinaux. Paris, 1845, 8vo.

[**] Recherches sur l'organisation des vers. *Gordiaceæ.* Annales des Sciences Naturelles, 3d ser. Vol. xii., 1839, p. 5.

The last European writer on this subject is Mr. Ed. Grube,* who has made some observations on the development of the egg of *Gordius aquaticus*, and described a new species from Africa. His paper bears chiefly on minute parasitical nematoids. He also alludes to the great resemblance there is between *Mermis albicans Ascaris acuminanta.*

III.

The anatomical structure of Gordiaceæ is also a matter of much controversy amongst anatomists.

Prof. Siebold,† in giving an account of the difference between intestinal worms and Gordii, again calls the latter enigmatic.

Berthold‡ describes a system of circulation neither seen nor acknowledged by the authors that came after him. He likewise mentions a nervous system; but giving no further account of it, its characters and distribution in the body of these worms remain to be investigated.

Dujardin || is in a complete doubt.

Prof. Siebold,§ in resuming Berthold's and Dujardin's investigation, says that the organs which Berthold took for veins and arteries, are contracted fibres, and that he has failed of seeing any organs which he could confidently call nervous or vascular systems.

We do not know yet the digestive tube of any Gordiaceæ. One fact, however, is ascertained with regard to that organ: it atrophies in full grown individuals. Even the structure of the skin, or external envelope of the body, deserves a more full comparative study.

Although Charvet and Berthold agree in saying that Gordiaceæ are androgynous, it has been plainly ascertained since that the sexes are distinct. But the structure of the sexual organs is not known. Prof. Siebold found an external character by which males differ from the females, the former, in *G. aquaticus*, having a bifurcated tail.

IV.

Some observations on the development of the eggs of *Gordius aquaticus* have been made by Ed. Grube.¶ Dr. Joseph Leidy had made similar investigations in 1846, and published only in 1850.** The eggs are laid in strings, nearly of the length, and sometimes the color, of the worm itself. Within those whitish strings or cords are found the eggs. The division of the yolk takes place, according to the general law of division of that substance, previous to the formation of the embryo. The embryo itself is gradually formed out of the yolk's substance, in a manner similar to that in Clepsinæ, and leeches in general. The young resemble their parents as soon as hatched.

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*Uber einigen Anguilulen und die Entwicklungs. von *Gordius aquaticus. Trosch.* Archiv für Naturgeschichte 1849, vol. i. p. 358. Pl. vii.

† *Wiegman's* Archiv, 1838, vol. iv., i. p. 302.

‡ Ueber das Bau das Wasserkalbs, 1842, in 12.

|| Annales des Sciences Naturelles, 2de serie, vol. xviii., 1842, p. 142.

§ *Wiegman's* Archiv, 1843, ii. pp. 302 and 307.

¶ *Troschel* für Naturgeschichte, 1849, i. p. 358. Pl. vii.

**Notes on the development of *Gordius aquaticus.* Proc. Acad. Nat. Sci., Philad., 1850, p. 89.

Young Gordii possess two circles of filamentary appendages around the proboscis, which, at this early period, is alternately protruded and retracted. Whether the same motion and the same appendages are still present in the adult state, is yet to be examined. Many worms are known to be provided with a retractile proboscis, which they use in perforating the sand and mud in which they live. Gordii might require it to introduce themselves into the living bodies where they are sometimes found. As to the circles of tentacles, they very likely disappear in the adult, while the alimentary canal atrophies, their function being intimately connected with the functions of the latter organ.

V.

With regard to the species of Gordiaceæ to be admitted, naturalists do not any more agree.

The most common in Europe is *Gordius aquaticus*, L.* The *G. marinus* and *G. annulatus* of Montague,† are Nemerteæ.

Mr. Charvet ‡ describes two others, from the vicinity of Grenoble, (France,) under two trivial names.

Mr. Dujardin § considers as distinct, from the above, a species from the vicinity of Toulouse, his *Gordius Tolosanus*, and describes another species, proposing for it the genus MERMIS, calling the species *M. nigrescens*.

Prof. Siebold ‖ has made us acquainted with a second species of Mermis, his *M. albicans*.

Mr. Blanchard ¶ has described one species from Chili, under the name of *G. Chilensis*.

Finally, Mr. Ed. Grube ** describes another from Africa, which he calls *Gordius crassus*.

Before we identify the North American Gordii with any of the above-mentioned ones, we must be prepared to account for many objections which can be made, respecting their having been created identical over such an extensive area, or else of their having migrated naturally, or having been accidentally transported.

VI.

We have in the United States one species, which seems quite common in fresh water, and referred by some to *G. aquaticus*. Rev. Z. Thompson, of Burlington, (Vt.,) expresses himself in the following terms: "The little animal called the *Hair snake* also belongs to this order, (annulata,) and to the genus

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* Systema Naturæ ed. xii. 1767, p. 1075.

† Transactions of the Linnean Society of London, vii. 1804, p. 72 and 74.

‡ Observations sur deux espèces du genre dragoneau qui habitent dans quelques eaux courantes aux environs de Grenobles. Nouv. Ann. du Mus. d'hist. Nat. iii. 1836, p. 37. Ann. Sc. Nat. 2de ser. ii. 1834, p. 123. *Wiegm.* Archiv. i., i. 1835, p. 341.

§ Mémoire sur la structure Anatomique des Gordius et d'une autre Helminthe qu'on a confondu avec lui. Ann. Sc. Nat. 2de ser. xviii., 1842, p. 129 and 146.

‖ Entomologische Zeitung, 1843, p. 80.

¶ Historia fisica y politica de Chile, por Claudio Gay. Zoologia iii., 1848, p. 109.

** *Troschel* Archiv, &c., 1849, i., p. 370.

Gordius. These are very common in the still waters and mud in all parts of the State. They are usually about the size of a large horse hair, and are from one to six or eight inches in length. In color they vary from pure white to nearly black, and hence we probably have several species. The vulgar notion that they originate from hairs which fall from horses and cattle, and become animated in the water, would seem to be too absurd for contradiction; and yet, absurd as it is, people are to be found who believe it."*

The same popular opinion is prevailing in Europe. Gordii have been noticed in the body of insects, also, by an American entomologist, Dr. Th. Wm. Harris, who says: "I have taken three or four of these animals out of the body of a single locust."† They have been found, by others, within the cricket, (*Acheta abbreviata*).

We saw a specimen, six or seven inches in length, caught in the clear waters in the vicinity of Richmond, (Va.) Several others were detected by Dr. Leidy in the neighborhood of Philadelphia.

Finally, we may mention several specimens of Gordii from Oregon, brought home by the U. S. exploring Expedition.

Gordii, therefore, are spread all over the Western hemisphere.

The Committee on the following paper, by Dr. Leidy, reported in favor of its publication in the Proceedings.

Corrections and Additions to former Papers on Helminthology published in the Proceedings of the Academy. By JOSEPH LEIDY, M. D.

BODO, *Ehrenberg.*

1. BODO HELICIS, *Diesing:* Syst. Helm. i, 45.

Cryptobia Helicis, *Leidy:* Proc. A. N. S. iii, 101; An. and Mag. of Nat. Hist. xix, 209.

Cryptoicus Helicis, *Leidy:* Journ. A. N. S., new series i, 67.

VERTEX, *Hemprich et Ehrenberg.*

1. VERTEX MARGINATUS, *Diesing:* Syst. Helm. i, 229.

Prostoma marginatum, *Leidy:* Proc. A. N. S. iii, 251. Rarely more than 3-5ths line long. Abundant in ditches below the city of Philadelphia.

AORURUS, *Leidy:* Pr. A. N. S. iv, 230.

Characteribus reformatis. Body cylindroid, broadly and strongly annulated. Tail long, spiculate, and inflexible. Mouth simple, round, unarmed. Female generative aperture posterior to the middle. Male with a single spiculate penis.

1. *Sub-genus.* STREPTOSTOMA, *Leidy:* Pr. A. N. S. iv, 230.

Characteribus reformatis. Annuli very broad, distinct, and few in number. Mouth large, circular; buccal organ (*œsophagus*) and gizzard pyriform. Tail very long and ensiform.

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[*] Natural History of Vermont, 1842, 8vo., p. 170.

[†] Report on the Insects injurious to vegetation, 1842, p. 155.

1. Streptostoma agile, *Leidy:* Proc. A. N. S. iv, 230.

2. Streptostoma gracile, *Leidy:* Proc. A. N. S. v, 100.

Oxyuris Diesingii, *Hammerschmidt:* Isis von Oken, 1838, 354, Taf. iv, fig. vi.

Oxyuris Blattæ orientalis, *Hammerschmidt:* Naturwis. Abhandl. von Haidinger i, 284, Tab. x, Figs. 4, 7, 13—15.

2. *Sub-genus.* THELASTOMA, *Leidy:* Pr. A. N. S. iv, 231.

Characteribus reformatis. Annuli few in number, broad. Oral annulus papillaform. Mouth small, circular; buccal organ long, cylindrical; gizzard pyriform. Tail spiculate, moderately long.

1. Thelastoma attenuatum, *Leidy:* Proc. A. N. S. iv, 231.

2. Thelastoma appendiculatum, *Leidy:* Proc. A. N. S. v., 101.

Oxyuris Blattæ orientalis, *Hammerschmidt:* Naturw. Abhandl. von Haidinger i, 284, Tab. x, Figs. 10—12, (♂ 8, 9, 20?)

3. Thelastoma labiatum, *Leidy:* Pr. A. N. S. v, 101.

4. Thelastoma robustum, *Leidy:* Ib. v, 101.

5. Thelastoma brevicaudatum, *Leidy:* Ib. v, 208.

The larva of a lamellicorn insect, from which this species was obtained, Dr. Le Conte informs me, belongs to Scarabeus relictus.

6. Thelastoma gracile, *Leidy.*

Oxyuris gracilis, *Hammerschmidt:* Naturw. Abh. v. Haidinger, i, 287, Tab. x, Figs. 21—25.

7. Thelastoma dilatatum, *Leidy.*

Oxyuris dilatata, *Hammerschmidt:* Ib. i, 287, Tab. x, 26, 27.

8. Thelastoma laticolle, *Leidy.*

Oxyuris laticollis, *Hammerschmidt:* Ib. i, 288, Tab. x, 28—34.

LUMBRICULUS, *Gruby.*

Acestus, *Leidy;* Pr. A. N. S. v, 226.

Characteribus reformatis. Body filiform, cylindroid, hyaline. Podal spines in 4 rows, in fasciculi of 2 to 5, furcate. Upper lip simple, conoidal. Girdle none. Eyes none. Blood bright red.

1. Lumbriculus spiralis, *Leidy.*

Acestus spiralis, *Leidy:* Pr. A. N. S. v, 226. Description from the young; found in the spring of the year.

Adult.—Body very long and delicate, filiform, cylindrical; posteriorly obtusely rounded. Upper lip compressed, conoidal. Annuli over 200. Podal spines in 4 rows, 3 to 5 anteriorly, 2 to 3 posteriorly, in each fasciculus, long sigmoid, furcate. Intervals of the viscera distended with globular corpuscles, which, shining through the translucent integument, give the annuli a deep greenish or bluish white opalescent appearance.

Length from 1 to 3 inches; breadth from 1-8th to 1-5th line. One of three inches in length had 276 annuli.

Habitation.—In the mud about the roots of Pontederia cordata, Sagitaria sagitifolia, and Arum virginicum, in ditches below Philadelphia. It is also often found coiled up in a remarkably close knot, among the other decaying petioles of the leaves of the plants just mentioned. Months of August and September.

2. LUMBRICULUS HYALINUS, *Leidy.*

Acestus hyalinus, *Leidy;* Proc. A. N. S. v, 226. Description from the young in the Spring.

Adult.—Body filiform, red in color, the posterior fifth yellowish, translucent. Upper lip sub-acute. Caudal annulus obtuse. Annuli from 120 to 180. Podal spines in fasciculi of from 3 to 8, furcate.

Whole length 2 inches, with usually 150 annuli; breadth anteriorly 1-5th line, posteriorly 1-6th line. One of 1 inch is about 1-6th line anteriorly, 1-8th of a line posteriorly.

Habitation.—Found in ditches with the preceding, the anterior two-thirds of the body buried in the mud, with the tail rapidly vibrating like Saenuris or Strephuris. Months of August and September.

CHÆTODEMUS, *Genus novum.*

Body cylindroid. Upper lip very large and broad. Podal spines in 4 rows, fasciculate, aristate. Mouth large, inferior; pharynx capacious, œsophagus cylindrical; intestine capacious. Eyes none. Blood colorless. Increasing by segmentation.

1. CHÆTODEMUS PANDURATUS, *Leidy.*

Body transparent, colorless. Upper lip panduriform, broader than the body. Podal spines in fasciculi of 4, long sigmoid, aristate, divergent, 1-666th in. long, commencing with the oral segment. Pharynx oval; œsophagus narrow, cylindrical; intestine large, narrowing posteriorly.

Whole length of an individual of three segments 1 line; breadth 1-570th inch. Breadth of upper lip 1-500th inch. First segment of the body with 7 annuli; second with 5; the third with 9.

Habitation.—Found in stagnant ponds and ditches.

Remark.—Allied closely to Æolosoma.

STYLARIA, *Lamarck.*

1. STYLARIA PALUDOSA, *Lamarck.*

Nais proboscidea, Linn. Syst. Nat. 13th ed. vol. i, pt. 6, p. 3121.

Body cylindroid, colorless, transparent. Without segmentation from 15 to 20 annuli; one of two segments 40 annulations. Podal spines, 7 to 10 in each fasciculus, long sigmoid, hooked and bifid at the free end. Setæ commencing after the fifth annulus from the mouth, usually single, occasionally two, from 1-400th in. to 1-66th in. in length. Caudal annulus truncated, sinuous, fringed with short stiff hairs. Upper lip broad, emarginate, with a cylindroïd, flexible, proboscidiform appendage from the 1-33d to the 1-25th in. long projecting from its notch, fringed with short, stiff hairs. Eyes two, transverse, reniform, situated one on each side of the mouth. Mouth triangular; pharynx capacious, œsophagus cylindrical, terminating in the intestine at the third setous annulus.

Whole length from 2 to 4 lines; breadth 1-6th line.

Habitation. In ditches and ponds in the neighborhood of Philadelphia.

2. Stylaria fossularis, *Leidy.*

Body of two segments, composed of 24 annuli in the first, 22 to the last. Podal spines 5 to 7 in each fasciculus. Setæ commencing after the fifth annulus, usually double, to 1-66th in. long. Upper lip broad, demi-oval, compressed, not emarginate, with a cylindroid, flexible, proboscidiform appendage the 1-33d in. long projecting from its summit. Eyes two, transverse, one on each side of the mouth. Pharynx capacious, extending to the 7th annulus; œsophagus cylindroid, tortuous, extending to the 7th annulus.

Whole length 4½ lines; breadth 1-6th line.

Habitation. Found with the preceding.

ANELCODISCUS, *Genus novum.*

Body cylindroid, smooth, posteriorly terminated by a cordiform, retractile acetabular disk. Mouth and anus terminal. Intestine simple, straight.

1. Anelcodiscus pellucidus, *Leidy.*

Body cylindroid, colorless, transparent; anteriorly rounded, obtuse; posteriorly spreading into a codiform disk for attachment. Disk retractile: when retracted, the body becoming dilated oval in the middle and the posterior part doubly intussuscepted.

Length 1-100th in.; breadth 1-1000th inch.

Habitation. Parasitic within the intestine of *Stylaria fossularis.*

Remarks. From the translucency of the last mentioned worm, its parasite may be seen within the intestine attached to the mucous membrane by means of its posterior cordiform disk. While attached it alternately retracts its body with a jerk, and then lengthens itself; in the former movement the posterior third of the body becoming doubly intussuscepted, so as to have the appearance of a double articulation. When detached the same movements take place, but in that of retraction the codiform disk is entirely drawn within the animal's body. More details of this curious parasite I did not obtain, for, although I saw three, and removed them from the intestine of the Stylaria, yet their movements were so active I could not study them to advantage, and to quiet them I tried a minute portion of the vapor of chloroform, which instantly killed them, but at the same moment they underwent total destruction. Since then I have not been able to examine others.

GREGARINA, *Dufour.*

1. Gregarina Scarabei relicti, *Leidy.*

Gregarina, *Leidy:* Pr. A. N. S. v, 208. Found in the larva of Scarabeus relictus.

EMEA, *Leidy:* Pr. A. N. S. v, 125.

Characteribus reformatis. Body linear, compressed. Head continuous with the body, with two lenticular depressions upon each side. Mouth in fero-terminal. Œsophagus styliferous. Eyes 4 to 6 anterior. Fresh water Nemertinea.

1. EMEA RUBRA, *Leidy:* Pr. A. N. S. v, 125.

Body contracting irregularly, reddish or yellowish flesh colored. Anteriorly and posteriorly obtusely rounded. Eyes two or three black spots, placed in a line behind one another, upon each side of the head: often irregular. First pair of lateral depressions opposite the interspace of the anterior two pairs of eyes; second pair just postero-lateral to the posterior pair of eyes. Œsophagus very long and tortuous, villous, furnished at its bottom with a single spine or nail-like tooth, and four others upon each side in a rudimentary condition, enclosed in a sac. Intestine becoming obliterated posteriorly.

Ordinary length from 1 to 6 lines; breadth from 1-8th to 1-5th line. Occasionally 10 lines long by 1-3d broad.

Habitation. In marshes, ditches, and stagnant ponds in the vicinity of Philadelphia.

Variety a. White, 2 lines long; 1-6th line broad.

Habitation. On the under side of stones in the Schuylkill River.

Remark. I have sometimes met with the largest sized females without the appearance of a developed ovum, and at others, those of from 1 to 3 lines in length, with from 3 to 18 large yellow eggs.

2. EMEA DUGESII, *Leidy.*

Polia Dugesii, *Quatrefages:* Rech. Anatom. et Zoolog. ii, 211.

DENDROCŒLUM, *Oersted.*

Characters same as planaria, with the head furnished with a hemispherical cotyloid cavity, capable of eversion into the form of a pediculated discoidal acetabulum.

1. DENDROCŒLUM SUPERBUM, *Girard;* Proc. Bost. Soc. Nat. Hist. iii, 265; Keller and Tiedemann, Nordamerik. Monatsb. ii, 2.

Body thin, plano-convex, translucent white, with the sides nearly parallel; anteriorly truncated, with the lateral angles slightly projecting; posteriorly obtusely angular. Cotyloid cavity of the head prominent, opening at the anterior truncated margin, when everted presenting the form of a circular disk supported upon a broad columnar contraction of the head. Eyes two, nearly globular, composed of a transparent vitreous humour enclosed at the postero-internal half by a black choroid. Œsophagus long, keg shaped; intestine delicately and minutely ramified, brown or blackish-brown in color.

Length 3 to 8 lines; breadth 2-5th to 4-5th of a line. The longest may contract to 3 lines by 4-5th in breadth.

Habitation and Remarks. In ditches communicating with the Delaware and Schuylkill Rivers below Philadelphia, creeping upon the submerged stems of Arum Virginicum, Pontederia cordata, Nelumbium luteum, and Zizania aquatica.

When seized or irritated it everts its acetabulum, by which it attaches itself to surrounding bodies with the tenacity of a leech.

RHYNCHODEMUS, *Genus novum.*

Body cylindroid, ob-fusiform. Head continuous with the body, proboscidiform, recurvatile, without tentacular appendages. Eyes two, lateral. Interior structure planaroid. Terrestrial.

1. Rhynchodemus sylvaticus, *Leidy:* Pr. A. N. S. v, 241.

2. Rhynchodemus ? terrestris, *Leidy.*
Fasciola terrestris, *Müller.*
Planaria terrestris, *Gmelin*: Syst. Nat. 3092; *Duges:* An. Sc. Nat. 21, 82, Pl. 2, fig. 18; *Oersted:* Entw. d. Plattw.; *Diesing:* Syst. Helm. i, 205.

BDELLOURA, *Leidy:* Proc. A. N. S. v, 242.

Body dilated, plano-convex; posteriorly dilated, constricted, truncated. Head continuous with the body; tentacular appendages none. Mouth inferior, sub-central; œsophagus protractile, cylindrical. Eyes two. Marine.

1. Bdelloura parasitica, *Leidy:* ib.

2. Bdelloura rustica, *Leidy:* ib. 243.

3. Bdelloura ? longiceps, *Leidy.*
Planaria longiceps, *Duges;* An. Sc. Nat. 21, 83, Pl. 2, fig. 21; *Diesing:* Syst. Helm. i, 207.

PLANARIA, *Müller.*

1. Planaria maculata, *Leidy:* Pr. A. N. S. iii, 251; v. 225.
Dugesia maculata, *Girard;* Keller and Tiedemann, Nordam, Montasb. ii, 23.

Body thin, spatulate, with sharp, nearly parallel, lateral margins; anteriorly thin trapezodial, the lateral angles formed by an acute, angular, erectile tentacular appendage; posteriorly sub-acute; superiorly a little convex, irregularly maculated with black, in the young sometimes with brown; inferiorly translucent whitish. Eyes two, reniform, proximate, situated at the inner side of an oval translucent space.

Length from 2 to 8 lines.

Habitation. In ditches and ponds in the neigborhood of Philadelphia; upon the under side of stones in the Delaware and Schuylkill Rivers, abundant.

Variety a. Brownish, indistinctly maculated.

Length 8 lines.

Variety b. Maculations greyish, indistinct, with the intestine blackish, brownish or greenish, frequently with a lighter stripe down the back.

Length 6 lines.

Habitation. Schuylkill River, under stones.

CATESTHIA,* *Genus novum.*

Body very soft, cylindroid. Head continuous with the body. Mouth infero-terminal; œsophagus amphoraform. Eyes two, deeply seated in the interior of an oval translucent space of the integument.

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*Κατεσθιω, devoro.

1. CATESTHIA STELLATO-MACULATA, *Leidy*.

Body oblong, cylindroidal; anteriorly and posteriorly obtusely rounded; superiorly maculated closely and regularly with very much branching, stellate, black pigment cells, which cease abruptly laterally, and anteriorly form 3 lobes, in the translucent whitish interspaces of which, deeply seated, are the eyes, which are black and globular; inferiorly translucent whitish. Mouth round, very large and dilatable; œsophagus amphoraform, very large.

Length 3 to 8 lines; breadth 1-4th to 1 line; thickness 1-5th to 4-5th line.

Habitation. Upon the under side of stones, in the Delaware and Schuylkill Rivers, below tide water mark.

Remarks. Closely allied to Vertex, *Hemp.* and *Ehrenb.*, but has not four eyes, and has a differently arranged generative apparatus.

It is exceedingly voracious; I have seen an individual, of 8 lines in length, swallow whole a Planaria maculata 6 lines in length.

Mr. Lea announced the death of RICHARD COWLING TAYLOR, which took place on Sunday morning, the 26th inst., at his residence in 13th street, in his 62d year, after a very short illness.

Mr. Lea remarked, that it was very rarely that the members of the Academy had to deplore so severe a loss as that sustained by the death of their distinguished fellow member Mr. Taylor.

In his particular branch of Geology (economic-geology) he stood pre-eminent, and as a mining engineer, no authority in this country, or, perhaps in Europe, was superior to that of Mr. Taylor. By early education and association in England, he became versed, in the most thorough manner, in these important sciences at an age when such education usually begins. Hence his first literary productions brought him prominently before the learned world, and he was introduced into literary and scientific societies, where he took an active part. The first work of importance which he published, was one on the Monastic remains of the county in which his father lived as a country gentleman, and on whose property there was a noted Anglo-Norman ruin. It was this probably that induced Mr. Taylor first to turn his attention to this branch of knowledge, and the result was the "Index Monasticus, in the ancient kingdom of East Anglia," published in 1821, in 1 vol. folio,* which at once gave him a reputation for thorough investigation and exactness, which noted all his after works, and which has rarely been excelled. This work was received with so much favor that Dr. Taylor was induced, at the request of the publishers, to undertake that thorough and learned work which he called a "General Index to Dougdale's Monasticon Anglicanum," in 1 vol. folio, with plates and maps, which was published in 1830. This took Mr. Taylor two years to complete, and was said to be so perfect as to require nothing further to be added in regard to it. In his profession, he had the great advantage of a most thorough and complete education, and he was associated in business with the late Wm. Smith, who has been considered as "the father of British Geology," on account of his having been the first geologist in England who attempted to classify the rocks of that country by their characteristic fossils; and who was said to have preceded MM. Cuvier and Brongniart in that important step, which gave such an impulse to this great branch of human knowledge. Under such auspices, and by his assidious application, Mr. Taylor made the most rapid advances in the art of Mining and the Science of Geology. The early relations of this intercourse ripened into a friendship, and sincere mutual regard, which lasted through life.

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*At a public sale his private copy, with some notes, brought £30.

With such acquirements, he was soon called into active employment, and we find him engaged, for a time, in the important ordinance survey of England, and he was also employed by the "British Iron Company," whose extensive and valuable property in South Wales, he investigated and reported upon. That portion of the Ordinance Survey which he executed, was finished in a most masterly manner, and his drafts were of the most exact and perfect kind. His report of the topography and geology of the mineral lands of the British Iron Company, were so admirably executed, that the Geological Society of London published the map and descriptive parts in its Transactions. In connection with this, he executed a model in plaster of that part of Wales,* which received so much approbation, that the Society of Arts awarded to him their *gold Isis Medal*, which is now in possession of his family. Subsequently to this, he was engaged for some years, in England, in the examination of various mining properties, after which he was induced to accept an appointment by Hardman Phillips, Esq., an intimate friend of the family, to remove to this country, and reside in Phillipsburg, Pennsylvania, where he remained four years, under the expectation of the professional employment promised him there. This was an unfortunate movement for himself and family, which now consisted of a wife and four daughters. Having lost, in this residence, both time and money, he removed to Philadelphia, for the purpose of seeking that employment in his profession in which he was so well qualified to excel. Previous to this, however, he was engaged in the survey of the Bossburgh District, and the line of railroad, which he completed, and made an extensive and able report in 1832.

It was after this time, in 1834, Mr. Lea first became personally acquainted with Mr. Taylor, which acquaintance immediately grew into a friendship, which increased through life. Shortly after this, Mr. Lea had it in his power to have Mr. Taylor placed in charge of the exploration of the extensive coal and iron property of the Dauphin and Susquehanna Coal Co., in Dauphin county, Pa., in which Mr. Lea had a large interest. Here Mr. Taylor remained about three years, and developed the mineral resources of this extensive mineral district, to the entire satisfaction of the Board of Directors. The whole of the lands embraced 42,000 acres, in a rugged, mountainous district, which required an experience and perseverance which few men had more of than Mr. Taylor. The result of this great labor was an elaborate report, of 187 pages in 8vo., together with about 150 maps, drafts, surveys and sections, which are invaluable to the Company, and in whose possession they now are. In connection with this, during a period of cessation, in this country, of activity in such works, he employed himself in the execution of a model of this part of the coal basin and its surrounding mountains, which occupied him many months. This subsequently became the property of the Dauphin Company. It embraces in length about 45 miles, and in breadth 15 miles of the district it represents, and is about 14 feet long. It is a complete geological and topographical representation of this important district, and would be alone a monument to a man of science, if he had never executed any other labor.

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* This was the first model of the kind executed in England.

As soon as the mining interests of the country had become relieved from the pressure which had prevailed for a few years, he again was called on to explore and investigate many mineral districts, connected with the working of gold, silver, lead, copper, coal, asphaltum, &c. Most of these reports were published, and it is believed that, in every case, they were so correctly executed as to leave no doubt in the minds of those who employed him, as to his judgment, his candor and his scrupulous representations of that which he was employed to examine. It was one of the characteristics of Mr. Taylor, as all his intimate friends were perfectly aware, that his openness and frankness were such as to induce him never to hesitate to express a candid opinion, or to make known a fact, however much it might be against his own interests. It was this which induced the most unbounded reliance, among his friends, on his representations. Beside the numerous engagements he had in various States, he frequently had calls to examine important mines in other parts of America; the copper mines of Cuba, the gold mines of Panama, the asphaltum of New Brunswick, &c. In Cuba he was employed to examine and report on the vein of asphaltum near Havana, of which he published an account in the Trans. of the Am. Phil. Soc., with a plan and section. The last work of this kind he was engaged in, was the examination of the injected vein of asphaltum at Hillsborough, in the Province of New Brunswick, which is now in litigation. His testimony in this case, as taken down, and since published, is a specimen of such thorough knowledge in his profession, such clearness, exactness and completeness, as to be worthy of all praise. It should have a place in all geological libraries. He was greatly interested in this singular litigation, which seems, strange as it may appear to geologists and mineralogists, to depend on the decision of a jury, whether an injected vein of asphaltum be not a seam or bed of bituminous coal, belonging to true coal measures! Nothing could be more clear, nor more to the point, than Mr. Taylor's evidence to the contrary. While in the examination of various districts, in his professional employment, he carefully noted every fact connected with general geology and palæontology, and the results were generally given in the form of papers to scientific bodies, and published in their Transactions. These will be found in various learned transactions in England and this country—particularly in those of the Am. Phil. Soc., the Acad. of Nat. Sciences, and the Geological Soc. of Penn., on this side of the Atlantic. They all bear internal evidence of a philosophic mind, schooled in the consideration of philosophical facts.

Notwithstanding what has been said in regard to all these labors of a most industrious life, the reputation of Mr. Taylor will rest chiefly on a work which has not yet been mentioned—his "*Statistics of Coal*," published in this city, in 8vo. pp. 754, in 1848. It included the geographical and geological distribution of mineral combustibles or fossil fuel, as well as notices of localities of the various mineral bituminous substances employed in arts and manufactures, illustrated by maps and diagrams, embracing, from official reports of the great coal-producing countries, the respective amounts of their production, consumption, and commercial distribution, in all parts of the world.

The execution of this work had engaged Mr. Taylor's time, not necessarily devoted to the practice of his profession, during many years of his life. His heart was set upon the completion of it, and when approaching to a conclusion it drew his mind from all other pursuits. While it was going through the press, he became so ill that, for many weeks, his physician and his family had little expectation of his living to see it completed. During this period many of the sheets had to pass through the press without his inspection, which fact naturally produced some errors. When the work reached the hands of those interested in the statistics of coal, its geology, and its geographical distribution, it was received with the most entire satisfaction. His intimate friends were the first to congratulate him on the work he had achieved, and the criticisms of the press soon followed with their share of approbation. Dr. Fitton, the distinguished geologist, reviewed it in the Edinburgh Review, and gave to its author the credit he so well deserved, of which the following is a single paragraph.

"The inquiries of the author have been extended, with marvellous industry and perseverance, to every part of the globe; but, as might be expected of an engineer residing in America, the coal tracts of that country naturally occupy a large portion of the work. As these are probably less known, to most of our readers, than the coal producing states of Europe, while they are beyond all comparison the greatest depositories of coal in the world—affording to that fortunate region the prospect of almost unbounded wealth—we shall confine our attention chiefly to this part of the work. But our readers may be assured that the author's account of other countries gives equal proofs of his diligence in collecting information."

The *London, Edinburgh and Dublin Phil. Mag. and Jour. of Science*, in its notice of this work, says, "comprehensive as the title of this work appears, it does not yet convey a just idea of its scope, or the extent of the subject matter. Did its title stand, '*Coal the civilizer;* its natural history, productions and applications,' it would perhaps convey to the casual reader a more just idea of the object and contents of the work." * * * "A long and intimate practical acquaintance with mines and mining operations in different parts of the world, had necessarily led him to amass a great quantity of material; the value of which, as a constant object of reference for his own use, led him to feel the utility of a digested and methodized arrangement of those materials, in a permanent shape, for the use of others. But there is found, throughout these pages, a pervading spirit beyond that merely materialistic and dry one which the title would indicate, and which the professional engagements of the author might have led us to anticipate. We perceive, impressed on every section, the idea, *not* of coal the mere *wealth producer*, the mere material instrument of the human animal, but of coal as an important agent in promoting civilization. It is in the same spirit, and imbued with the same everywhere pervading high moral sentiment, that the author more than once calls attention to the vastly greater importance of iron than of gold and silver. We cannot conclude without cordially recommending this work to the attention of our readers. While it will be an invaluable book of reference to every future inquirer into the numerous economic questions connected with our most important industrial operations and manufactures, and into the great social questions arising out of them, it will form an indispensable part of the library of every geologist."

The *London Athenæum* in its notice says, "The work of Mr. Taylor will command attention, and become standard as a reference; especially as it is the only one which endeavors to concentrate the knowledge diffused through so many channels, and often attainable only in the countries to which the statistics refer."

The press in this country did not withhold its proper appreciation of a work so important to the great coal and iron interests this side the Atlantic.

In the notice in Silliman's Journal it is said, "It is a sufficient guarantee for its completeness and accuracy on all points on which it touches, that it received, before publication, the highest and most unqualified praise at one of the meetings of the American Association of Geologists and Naturalists." * * * "An examination of the volume, now that it has appeared from the press, gives us a still higher opinion of the talents and industry of its author, and the great value of his labors," &c. The Journal of the Franklin Institute stated it could scarcely have been thought possible that one individual, especially in this country, could have collected together such a mass of facts, and made of them so well arranged and so delightful a book. Hunt's Merchants' Magazine says, "We venture to say that, on no kindred subject has a more complete or perfect treatise ever been produced."

Beside the proficiency which Mr. Taylor had acquired in economic geology, he had devoted himself much to theoretic geology, and his knowledge of the various formations, which make the sum of the geological series, was rarely excelled by his colleagues. He had devoted himself more particularly to the strata connected with the coal formation, and he was the first person, as Prof. Silliman stated, to a meeting of the American Association of Geologists, who had referred the old Red Sandstone, underlying the coal of this State, to its true position, corresponding with its place in the series of European rocks. He was unwilling to engage in State surveys, but his aid was sometimes required to assist in those particular branches in which he so much excelled. With this view he for a short time lent his services to the New York State Survey.

In the year 1832 he was elected a member of this Academy, and in 1846 a life membership was conferred upon him, "as a mark of respect and a just appreciation of its means of usefulness derived from him." His attachment to the Academy increased with his advancing years. He frequently made donations to it of specimens and books. Very recently, he presented a most elaborate geological table in manuscript, colored to represent the different strata, and combining the analogous nomenclature of various systems. This most valuable donation was made to the Academy on condition of its never being taken from the library, and it cannot fail to be most useful for consultation and reference.

At the time of his death, Mr. Taylor was engaged in preparing a paper, for the Journal of the Academy, on the fossil plants which he had discovered in his recent visit to New Brunswick. The fossil fishes which he also discovered there, he left with his friend Prof. Agassiz, who was to describe the new ones for him. All these Mr. Taylor intended should be deposited in the collection of this Academy, to which he had already added many valuable specimens.

Mr. Taylor was the third son of Samuel Taylor, of New Buckenham, in Norfolk, England, and a descendant of Dr. John Taylor, the author of the Hebrew Concordance. He was born at Banham, in Norfolk, Jan. 18th, 1789. His brothers and cousins were men generally distinguished by their great literary and scientific acquirements. His younger brother, Edgar Taylor, was a distinguished member of the legal profession in London, and an accomplished scholar. He was the author of several works, and remarkable for his numerous learned reviews, published in the most prominent periodicals in Great Britain. His cousin, Richard Taylor, is the well-known and able editor of the Philosophical Magazine, which has been the leading scientific Journal of England for the last 25 years. John and Phillip are equally distinguished as mining engineers.

The great services Mr. Taylor had rendered science have been acknowledged, by his being made a member of the principal Societies in England and this country, which embraced those branches of knowledge which he cultivated. He was elected a member of the Geological Society of London, and of the Society of Civil Engineers, of that city. In this country he was a member of this Academy, as before mentioned; of the American Philosophical Society; of the Geological Society of Pennsylvania; of the American Association of Geologists and Naturalists, of the Franklin Institute, &c., &c.

In a rapid survey of Mr. Taylor's scientific labors, it would be difficult to give anything more than a brief and imperfect list of his writings. In this sketch will not be introduced his professional reports, which occupied the chief part of his life, and which were generally executed in such a systematic and perfect manner, as to remain models, worthy of imitation by all engaged in such works. Whether his beautiful map of the *Ordinance Survey*, executed in 1813—14, was the first, is not certain, but it seems to bear the earliest date. He subsequently published, in the Trans. Geological Society of London, "Notice of two Models and Sections of about eleven square miles, forming a part of the Mineral Basin of South Wales, in the vicinity of Pontypool," (1830). "On the Crag Strata at Bramerton, near Norwich," (1823). "On the Alluvial Strata, and on the Chalk of Norfolk and Suffolk, and on the Fossils by which they are accompanied," (1823). In the Magazine of Natural History he published, in 1829, a paper called the "Progress of Geology," which was followed, in 1830, by another, the "Introduction to Geology," which was succeeded by "Illustrations of Antediluvian Zoology and Botany." These papers were illustrated with many beautiful drawings and sections, and were published before he came to America. His first papers published in this country were, it is believed, in the Trans. of the Geological Society of Pennsylvania, with the following titles:—"On the Geological position of certain beds, which contain numerous Fossil Marine Plants of the family Fucoides, near Lewistown, Mifflin county, Pa.," (1834). "On the relative position of the Transition and Secondary Coal Formations in Pennsylvania, and description of some transition or Bituminous, Anthracite, and Iron ore beds, near Broad Top Mountain, in Bedford county, and of a coal vein in Perry county, Pennsylvania, with sections." "Notices of the evidences of the existence of an ancient Lake, which appears to have formerly filled the Limestone Valley of Kishacoquillas, in Mifflin county, Penna." "On the Mineral Basin or Coal Field of Blossburg, on the Tioga River, Tioga county, Penn." "Memoir of a section passing through the Bituminous Coal Field near Richmond, in Virginia." "Review of the Geological phenomena, and the deductions derivable therefrom, in 250 miles of sections, in parts of Virginia and Maryland. Also, notice of certain Fossil Acotyledonous Plants in the secondary strata of Fredericksburg," (Vir.) In the Transactions of the American Philosophical Society, he published "Memoir of the Character and Prospects of the Copper Region of Gibara, and a Sketch of the Geology of the N. E. part of the Island of Cuba." "Notice of Fossil Arborescent Ferns of the Family Sigillaria and other Coal Plants, exhibited in the Roof and Floor of a Coal Seam in Dauphin county, Penn." "Notice of a Vein of Bituminous Coal recently explored in the vicinity of the Havana, in the Island of Cuba." (This was jointly with Mr. Clemson.) In Silliman's Journal he published, "Notes respecting certain Indian Mounds and Earthworks in the form of Animal Effigies, chiefly in the Wisconsin Territory, U. S., with Plans and Illustrations." "Notice of a Model of the Western portion of the Schuylkill, or Southern Coal Field of Penn., in illustration of an Address to the Association of American Geologists, on the most appropriate modes for representing Geological Phenomena," (with illustrative sections). In the Journal and Proceedings of the Acad. Nat. Sciences, "Table constructed from a few Meteorological Notes, chiefly in regard to the daily temperature of noon, on the East Coast of the Isthmus of Panama, Port Royal, in Jamaica, and on the return voyage to New York, for the month of October, 1849." "Substance of Notes made during a Geological Reconnoisance in the Auriferous Porphyry region next the Carribean Sea, in the Province of Veraguas and Isthmus of Panama," 1851, with maps. At the time of his sudden illness he was engaged in a paper entitled, "On a Vein of Asphaltum of Hillsborough, in Albert county, Province of New Brunswick," which he has left in an unfinished state, but which is so far complete as to justify its publication in the Journal of the Academy.

ELECTION.

J. L. Burtt, M. D., U. S. N., and W. L. Sherman, M. D., U. S. N., were elected *Members* of the Academy.

ERRATA IN VOL. V.

Page 14, line 16 from bottom, for *Zeuker* read *Zenker.*
“ 22, “ 10 “ top, for *February* read *August.*
“ 55, “ 23, “ bottom, for *Plumus* read *Plumos.*
“ 117, “ 16 “ “ for *Vol.* 5 read *Vol.* 4.
“ 154, “ 12 “ top, for *necessarily* read *unnecessarily.*
“ 157, “ 4 “ bottom, for *Heidinger* read *Haidinger.*
“ 169, “ 10 “ top, for *Dikaj* read *Dijak.*
“ 209, “ 7 “ “ for *isoseoles* read *isosceles.*
“ 209, “ 10 “ “ for *joints* read *points.*
“ 210, “ 5 “ bottom, for *papulus* read *Passalus.*
“ 210, “ 4 “ “ for *gulus* read *Julus.*
“ 212, “ 21 “ “ for 8 read 13, and for 34 read 54.
“ 224, “ 10 and 11 from bottom, for *Aspidagaster* read *Aspidogaster.*
“ 227, “ 2 from bottom, insert John H. Brinton.
“ 256, “ 5 “ “ for *Sowerly* read *Sowerby.*
“ 259, “ 13 “ “ for *Statisque* read *Statistique.*
“ 275, “ 10 “ top, for *Longstreth* read *Langstroth.*
“ 276, “ 19 “ “ for *robustum* read *priscum.*
“ 276, “ 23 “ “ for *i.* ¼ read *i.* ¾.
“ 276, “ 2 “ bottom, before “by” insert “read.”
“ 295, “ 8 “ top, for *were* read *are.*
“ 296, “ 5 “ “ for *Silliquaria* read *Sigillaria.*
“ 297, “ 13 “ “ for *Ireland* read *Iceland.*
“ 297, bottom line, for *Arctos* read *maritimus.*
“ 301, line 21 from bottom, for *cinqe* read *cinque.*
“ 345, top line, for *puncticollis* read *poricollis.*
“ 357, line 21 from top, for *Coaco* read *Cocoa.*
“ 357, “ 11 “ bottom, for *Borneo* read *Africa.*
“ 357, bottom line, for *Fiuns* read *Finns.*